

CUST#0889002

NPOWEME-P0021-USA-1/何善初/何慧琦

AMENDMENTS TO THE CLAIMS

- Claim 1 (currently amended): A structure of an embedded channel write/erase flash memory cell, comprising mainly:
- an N-substrate;
 - a flash memory cell region comprising mainly:
 - [[and]]
 - a deep P-well formed [[on]] in said substrate;
 - an N-well formed [[on]] in said deep P-well, a deep [[P-type]] p-type region and a shallow p-type region being implanted in predetermined positions of said N-well; [[and]]
 - a first n-type region formed at one side of said shallow p-type region and in said deep p-type region in said N-well to be used as a drain;
 - a second n-type region formed at the other side of said shallow p-type region in said N-well to be used as a source; and
 - a stacked gate formed on said N-well; and
 - a CMOS device region comprising mainly:
 - a first deep P-well formed [[on]] in said substrate;
 - a first N-well formed [[on]] in said first deep P-well, a plurality of p-type regions being implanted in predetermined positions of said first N-well;
 - a second deep P-well formed [[on]] in said substrate; and
 - a second N-well formed [[on]] in said second deep P-well, a plurality of p-type regions being

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implanted in pre determined positions of said second N-well.

5 Claim 2 (original): The structure of an embedded channel write/erase flash memory cell as claimed in claim 1, wherein an oxide layer is further provided between said N-well and said stacked gate of said flash memory cell region.

10 Claim 3 (original): The structure of an embedded channel write/erase flash memory cell as claimed in claim 2, wherein a smiling effect pattern is caused by oxidation between said stacked gate and said oxide layer.

15 Claim 4 (canceled)

20 Claim 5 (original): The structure of an embedded channel write/erase flash memory cell as claimed in claim 1, wherein the implanted depth of said deep p-type region in said N-well of said flash memory cell region is larger than that of said shallow p-type region.

25 Claim 6 (original): The structure of an embedded channel write/erase flash memory cell as claimed in claim 1, wherein said deep p-type region in said N-well of said flash memory cell region is connected with one end of said shallow p-type region.

30 Claim 7 (canceled)

Claim 8 (currently amended): The structure of an embedded channel write/erase flash memory cell as

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claimed in claim [[7]] 1, wherein a field oxide layer and an n-type ion channel barrier layer can also be provided between said second n-type region and said shallow p-type region in said N-well, said n-type ion channel barrier layer being disposed below said field oxide layer.

Claim 9 (currently amended): The structure of an embedded channel write/erase flash memory cell as claimed in claim [[14]] 1, wherein said first n-type region implanted in said deep p-type region of said flash memory cell region is connected to said deep p-type region via an electrical short circuit.

Claim 10 (currently amended): The structure of an embedded channel write/erase flash memory cell as claimed in claim 9, wherein said electrical short circuit is formed by using a metal contact to penetrate a junction [[of]] between said first n-type region in said deep p-type region and said deep p-type region.

Claim 11 (currently amended): The structure of an embedded channel write/erase flash memory cell as claimed in claim 9, wherein said electrical short circuit is formed by using a metal contact to connect said exposed first n-type region in said deep p-type region with said deep p-type region.

Claim 12 (canceled)

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Claim 13 (currently amended): The structure of an embedded channel write/erase flash memory cell as

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claim d in claim 1, wherein said CMOS device region further comprises a first P-well formed [[on]] in said substrate and at one side of said first deep P-well.

- 5 Claim 14 (currently amended): The structure of an embedded channel write/erase flash memory cell as claimed in claim 13, wherein said CMOS device region further comprises a second P-well formed on said substrate and at one [[said]] side of said first P-well.

- 10 Claim 15 (currently amended): The structure of an embedded channel write/erase flash memory cell as claimed in claim 1, wherein said CMOS device region further comprises a first P-well formed [[on]] in said
15 first deep P-well.

- Claim 16 (currently amended): The structure of an embedded channel write/erase flash memory cell as claimed in claim 1, wherein said CMOS device region
20 further comprises a second P-well formed [[on]] in said second deep P-well.